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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,422	12/12/2000	Yoshihisa Furuta	Q 62228	7788

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EXAMINER

MUSSER, BARBARA J

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/719,422

Applicant(s)

FURUTA ET AL

Examin r

Barbara J. Musser

Art Unit

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspond nce address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, the phrase "and the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "and the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d). It is unclear whether the claim requires the structure of claims 1 or 2. For the purposes of examination, the claim is assumed to only require that the tape be capable of being used in the method of claims 1 or 2. If applicant intends the tape to be used with the chip, it is suggested that applicant claim the combination of the chip and the tape.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by Sakumoto et al.(U.S. Patent 5,277,972).

Sakumoto et al. discloses an adhesive tape for use with electronic components wherein the tape has a thermal shrinkage of less than 0.15% in the resin deposition temperature range.(Col. 7, ll. 56-59) The tape is attached to a lead frame used with semiconductors and are sealed with resin after the chips are mounted.(Col. 1, ll. 15-35) Although the tape is not specifically described as pressure sensitive, the tape is applied without the use of heat, but simply via attachment.(Col. 11, ll. 17-19) One in the art would understand that this means the tape is applied via pressure.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuji et al.(JP 2-10748A) in view of Sakumoto et al.

Yuji et al. discloses a method of mounting a chip on a lead frame by applying a tape to the base of the lead frame, attaching the chip, and encapsulating the chip with resin. The tape can be removed after encapsulation.(Abstract) The reference does not disclose that the tape has a thermal shrinkage of less than 3% during resin encapsulation. Sakumoto et al. discloses an adhesive tape for attachment to lead frames wherein the tape has a thermal shrinkage of less than 0.15% in the resin

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deposition temperature range.(Col. 7, ll. 56-59) Sakumoto et al. recites that the tape assemblies are exposed to high temperatures(Col. 7, ll. 40-42) and movement of the wires connected to the tape due to thermal hysteresis is to be avoided.(Col. 9, ll. 1-11) one in the art would appreciate it would have been obvious at the time the invention was made to use the tape of Sakumoto et al. in the process of Yuji et al. in view of the teachings of Sakumoto et al.(Col. 7, ll. 40-42; Col. 9, ll. 3-11) The tape of Sakumoto et al. is not specifically stated to be pressure sensitive. However, it would have been obvious to one reading the reference as a whole that the tape was pressure sensitive since it is applied without the use of heat, but simply via attachment.(Col. 11, ll. 17-19)

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yuji et al. and Sakumoto et al. as applied to claim 1 above, and further in view of Hitachi Ltd.(JP 11-74412A).

The references cited above do not disclose using a tape carrier in place of the lead frame. Hitachi Ltd discloses using a tape carrier as mounting for chips, i.e. in place of a lead frame.(Oral translation) It would have been obvious to one skilled in the art at the time the invention was made to use a tape carrier in place of the lead frame of Yuji et al. since such is well-known and conventional in the chip mounting arts as shown for example by Hitachi Ltd.

### ***Drawings***


8. It is unclear what "A" is in the drawings as it appears to point to a specific layer but the specification appears to indicate that it is the entire lead frame and adhesive tape.


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is (703) 305-1352. The examiner can normally be reached on Monday-Thursday 7AM-4PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W. Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
BJM  
June 3, 2002

  
Michael W. Ball  
Supervisory Patent Examiner  
Technology Center 1700